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A01C 001/04

(21) Application No: 197581394

COVER LAYER
FIBER TEXTURE, THIN BASE LAYER

COMPRESSED STRAW
ORGANIC, INORGANIC, ORGANIC
OR FIBROUS MATERIAL
COCONUT FIBERS, P. MOSS
WOOD SHAVINGS

LATEX
SEEDS IN OR ON BASE LAYER

BEST AVAILABLE COPY

coconut fiber dust, sawdust, fiber texture 2-3mm
5-10mm (straw) water permeable material, flexible (coconut fibers, peat moss, wood shavings)
organic or other organic particulate material pg 3

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16/4/75
P.C. 1250
✓
2(12)

81394/75

AUSTRALIAN PATENT OFFICE
APR 15 1975
PATENT OFFICE
Form 1

COMMONWEALTH OF AUSTRALIA
Patents Act 1952-1973

APPLICATION FOR A PATENT

I, ARTHUR THOMAS PROCTOR
(in BLOCK LETTERS)

of 111-113 BELMORA HILL ROAD
MORNINGTON 3931 VICTORIA AUSTRALIA

hereby apply for the grant of a Patent for an invention entitled

ENZY-LAWN

which is described in the accompanying ^{provisional} ~~complete~~ specification.

My address for service is 111-113 BELMORA HILL ROAD
MORNINGTON 3931 VICTORIA

Dated this 8th day of April 1975

To:
THE COMMISSIONER OF PATENTS

Arthur Thomas Proctor
(Signature)

This form must be accompanied by either a provisional specification (Form 9 and true copy) or by a complete specification (Form 10 and true copy).

PROVISIONAL SPECIFICATION No. 81394/75



ENTER PROVISIONAL SPECIFICATION No. 81394/75

Department of Public Works
Patent Office

COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1973

Form 1

APPLICATION FOR A PATENT

I ARTHUR THOMAS PROCTOR
(Use BLOCK letters)

111-113 BELEURA HILL ROAD

of MORNINGTON 3931 VICTORIA AUSTRALIA

hereby apply for the grant of a Patent for an invention entitled

EASY-LAWN

which is described in the accompanying provisional specification complete

My address for service is 111-113 BELEURA HILL ROAD

MORNINGTON 3931 VICTORIA

Dated this 23rd day of December 19 74

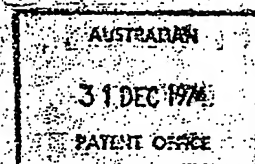
To:

THE COMMISSIONER OF PATENTS

Arthur Thomas Proctor
(Signature)

This form must be accompanied by either a provisional specification (Form 9 and true copy) or by a complete specification (Form 10 and true copy).

Cheques to value of <u>84</u>
Attached,
Mail Officer <u>JP</u>



DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT
OR PATENT OF ADDITIONIn support of the Application made by ARTHUR THOMAS PROCTORfor a ~~patent~~
~~patent of addition~~ for an invention entitledEASY-LAWNI, ARTHUR THOMAS PROCTORof 111, 113 BELVEDERE HILL ROAD, MORNINGTON, 3931, VICTORIA

do solemnly and sincerely declare as follows:—

1. I am the applicant for the ~~patent~~
~~patent of addition~~~~(or, in the case of an application by a body corporate)~~

1. I am authorized by

~~the applicant for the~~ ~~patent~~
~~patent of addition~~ to make this declaration on
its behalf.

2. I am the actual inventor of the invention.

~~(or, where a person other than the inventor is the applicant)~~2. Arthur Thomas Proctorof 111, 113 BELVEDERE HILL ROAD, MORNINGTON, VICTORIA, 3931is the actual inventor of the invention
and the facts upon which I am entitled
to make the application are as follows:—Declared at MORNINGTON this 23rd day of December 1974

To:

THE COMMISSIONER OF PATENTS.

Arthur Thomas Proctor
(Signature of Declarant)

(IMPORTANT—Cross out inapplicable words in the above Form.)

AUSTRALIAN

31 DEC 1974

PATENT OFFICE

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952-1959

DECLARATION IN SUPPORT OF CONVENTION OR
NON-CONVENTION APPLICATION FOR A
PATENT OR PATENT OF ADDITION

(The declaration shall be made by the applicant, or, if the applicant is a body corporate, by a person authorized by the body corporate to make the declaration on its behalf).

In support of the Application made for a ~~patent~~ ^{patent} for an invention entitled
"EASY-LAWN" filed on 16th April, 1975 under
No. PC 1250/75

Insert title of invention.

Insert full name(s) and address(es)
of declarant(s).

I
do

ATHOL THOMAS PROCTOR, of
111-113 Belevue Hill Road,
Morningside, Victoria 3931

do solemnly and sincerely declare as follows:-

1. (a) I am ~~the applicant~~ ^{the applicant} for the ~~patent~~ ^{patent}
or (b) I am authorized by ~~the applicant~~ ^{the applicant}

Delete the words which are not
applicable.

Insert full name of applicant Com-
pany.

Delete the words which are not
applicable.

Insert full name(s) and address(es)
of actual inventor(s).

2. (a) I am ~~the actual inventor~~ ^{the actual inventor} of the invention
or (b) ~~I am not the actual inventor~~ ^{I am not the actual inventor}

~~I am not the actual inventor of the invention and I am not authorized by the applicant to make this declaration on its behalf.~~
~~I am not the actual inventor of the invention and I am not authorized by the applicant to make this declaration on its behalf.~~

State names in which applicant(s)
derive title from actual inventor(s).

Insert country and date of filing
of each application on which pri-
ority is based.

Insert full name of applicant in
each basic application.

(Paragraphs 3 and 4 apply only to Convention applications).

3. The basic application ~~as defined by Section 141 of the Act~~ ^{as defined by Section 141 of the Act} was made
in ~~on the~~ ^{on the}
by ~~on the~~ ^{on the}
in ~~on the~~ ^{on the}
by ~~on the~~ ^{on the}

4. The basic application ~~referred to in paragraph 3 of this Declaration~~ ^{referred to in paragraph 3 of this Declaration} was
the first application ~~made in a Convention country in respect of the invention the subject~~ ^{made in a Convention country in respect of the invention the subject}
of the application.

Signature(s) of declarant(s).

(No attestation or other signature
is required).

Note: Initial all Abbreviations.

TO:

The Commissioner of Patents

Declared at Melbourne this 19th day of May 1975

A. T. Proctor

COMMONWEALTH of AUSTRALIA
PATENTS ACT 1952-1959

COMPLETE SPECIFICATION

(Original)

FOR OFFICE USE:

Class

Int. Class

Application Number:

Lodged:

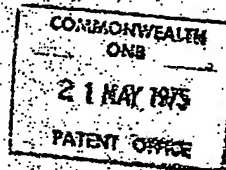
Complete Specification Lodged:

Accepted:

Published:

Priority:

Refined Art:



• Name of Applicant:

ATROL THOMAS PROCTOR

Address of Applicant:

111-113 Beleura Hill Road,
Hornington, Victoria 3931

Actual Inventor(s):

ATHOL THOMAS PROCTOR

Address for Service

DAVIES & COLLISON, Patent Attorneys,
Cromwell Building, 374 Bourke Street, Melbourne, 3000

Complete Specification for the invention entitled: "SEED BEARING MAT"

The following statement is a full description of this invention, including the best method of performing it known to :-

This invention relates to a seed bearing mat particularly, but not exclusively, for use in preparing lawns.

According to the present invention there is provided a seed bearing mat comprising a layer of water permeable material and seeds bonded within or to said layer. It is preferred that water permeable material comprises straw bonded into a compressed layer by a bonding agent and that a bonding agent keeps the seeds bonded to the layer. A mat of this construction is relatively physically robust and is therefore better able to withstand the damaging affects of wind and rain.

The invention also provides a method of making a seed bearing mat comprising forming a layer of water permeable material and bonding seeds within or onto said layer.

The invention further provides a method of sowing a crop comprising laying a layer of water permeable, porous material having seeds adhered thereto upon the ground and applying water to the layer so that the layer becomes saturated with water and which, thereafter, tends to remain fixed in position relative to the ground.

The invention will now be described with reference to the accompanying drawing which shows a cross section through a portion of a mat constructed in accordance with the invention.

The mat shown in the drawing comprises layer 2 of flexible porous material such as compressed straw held in a compressed state by a bonding agent such as rubber latex. Straw is the preferred material but it is by no means

essential since other organic or inorganic material can be used. For instance, coconut fibres, peat moss, wood shavings or other organic particulate or fibrous material could be employed. In use of the mat, the layer 2 becomes saturated with water and tends to keep the mat in a fixed position relative to the ground. Further, where the layer 2 is made from organic fibrous or particulate material it serves as a layer of mulch which will gradually decompose. Bonded to the layer 2 is a covering layer 4 made from material which is of finer texture than that of the layer 2. For instance, coconut fibre dust or sawdust bonded together by latex would be most suitable. Seeds (not shown in the drawing) are bonded between the layers 2 and 4. The layers 2 and 4 need not be made from organic materials, for instance, particulate foamed plastic material or foam rubber would be suitable. It is preferred that the bonding agent used for binding the layers 2 and 4 together and for bonding seeds between the layers comprises latex since this tends to gradually break down when wet. The mat is preferably made so that the layer 2 is approximately 5 to 10 mm thick and the layer 4, 2 or 3 mm thick. It is preferred that the mat be made in long lengths say 1 metre wide so that it can be handled and laid much the same way as carpet.

One method of making the mat will now be described. First, straw is spread into trays say 1 metre wide and of convenient length say up to about 10 metres. The straw is initially uncompressed and is laid to a depth of approximately 5 cm. The layer of straw is then sprayed with contact adhesive such as a solution of 70% latex and 30% water.

The adhesive is sprayed at the rate of about 160 cc per square metre. The layer of straw is then inverted and the other side is sprayed with latex at the same concentration rate. The layer of straw having contact
5 adhesive applied thereto is fed through the nip of a pair of rollers so as to form a relatively compact porous layer.

Next, the compact layer of straw is again sprayed with latex, at the same rate, and seeds are then distributed
10 onto the layer. Where lawn seed is required, a typical seed distribution rate would be approximately 700 grams per square metre. At this stage, it is preferable to distribute a fungicide to prevent fungus attacking the seed. A suitable fungicide is sulphur dust. Further, a plant hormone such
15 as A Naphthaleneacetic acid can be sprayed over the seeds. The acid may be in water solution at the rate of 0.001%. This hormone additive has the beneficial effect of promoting the elongation of the roots of the seeds after germination. Urea in liquid form, can also be applied at this stage.
20 The urea tends to help break down the covering layer 4 when the mat is wet (where the layer 4 is made from organic material).

Next, the material to form the covering 4 is initially at a depth of 5 mm applied to the layer. The preferred material is coconut fibre
25 dust since it is organic in nature, inexpensive, and of suitably fine texture. The mat is again fed through the nip of a pair of rollers so as to compress the covering layer and firmly bond the seeds between the layers. A composting agent such as "LIVING SOIL" can be applied to
30 the mat if desired. The composting agent will facilitate

breakdown of the layer of straw after germination of the seeds.

The completed mat can be rolled and stored in readiness for use. The mat will last for as long as the life of the seeds, and in this respect, it is preferred to keep the mats in a cool store at 10°C to prolong the life of the seeds.

In use the mat of the invention is laid upon prepared ground which has been watered. After laying of the mat it is heavily watered so that the layer 2 becomes saturated, therefore tends to remain in position despite the slope of the land. The mat has sufficient physical strength to withstand the effects of heavy hose watering. There is little possibility of seeds being washed away or taken by pests since they are bonded to the layer 2 and, in the preferred form, covered by the layer 4. The definite bonding of the seeds to the mat ensures that seeds cannot move prior to germinization and thus the crop will grow in a uniform manner.

Many modifications will be apparent to those skilled in the art without departing from the spirit and scope of the invention.

The claims defining the invention are as follows:-

1. A seed bearing mat comprising a layer of water absorbant material and seeds bonded within or to said layer.
2. A mat as claimed in claim 1 wherein said layer comprises fibrous material bonded into a porous layer by a bonding agent.
3. A mat as claimed in claim 2 wherein said seeds are bonded within or to said fibrous material by said bonding agent.
4. A mat as claimed in claim 2 or 3 wherein the fibrous material comprises straw and the bonding agent comprises latex.
5. A mat as claimed in claim 4 wherein the seeds are bonded to the surface of the layer of straw and are covered by a further layer which is less porous than the straw layer and serves as a top cover for the mat.
6. A mat as claimed in claim 5 wherein the further layer comprises coconut fibre or coconut fibre dust bonded together into a layer and to the layer of straw by latex.
7. A mat as claimed in anyone of the preceding claims containing any one or combination of the following additives: fungicide, fertilizer, urea, hormone additive,

and composting agent.

8. A mat as claimed in claim 7 wherein the fungicide comprises sulphur.

9. A mat as claimed in claim 7 or 8 wherein the hormone additive comprises A Naphthaleneacetic acid.

10. A method of making a seed bearing mat comprising forming a layer of water absorbent material and bonding seeds within or onto said layer.

11. A method as claimed in claim 10 wherein the water absorbent material comprises straw which is sprayed with latex and compressed to form said layer.

12. A method as claimed in claim 11 wherein further latex is applied to the layer of compressed straw and seeds are distributed over the layer to bond them onto the layer.

13. A method as claimed in claim 12 wherein a layer of fibrous or particulate material is applied to the layer of straw to form a covering over the seeds.

14. A method as claimed in any one of claims 10 to 13 including the step of adding one or more of the following to the mat: urea, fungicide, fertilizer, hormone additive and composting agent.

15. A method of making a seed bearing mat comprising the steps of: forming a first layer of fibrous or particulate material; applying contact adhesive to the material; compressing the material to form a mat; applying further contact adhesive to the mat; applying seeds to the surface of the mat; forming a second layer on said mat of fibrous or particulate material of finer texture than said first mentioned fibrous or particulate material and compressing the second layer to form a covering layer for the seeds.

16. A method as claimed in claim 15 wherein the first layer comprises straw initially approximately 3" thick and the second layer comprises coconut fibres or coconut fibre dust.

17. A method as claimed in claims 15 or 16 wherein the contact adhesive comprises water based latex applied at the rate of approximately 160 cc per square metre for both applications.

18. A method of sowing a crop comprising laying upon the ground a layer of water absorbent, porous material having seeds adhered thereto and applying water to the layer so that the layer becomes saturated with water and which, thereafter, tends to remain fixed in position relative to the ground.

19. A method of making a seed bearing mat substantially as hereinbefore described with reference

to the accompanying drawings.

20. A seed bearing mat substantially as hereinbefore described with reference to the accompanying drawings.

21. The steps, features, compositions and compounds referred to or indicated in the specification and/or claims and/or drawings of this application, individually or collectively, and any and all combinations of any two or more of said steps or features.

Dated this 19th day of May, 1975.

ATHOL THOMAS PROCTOR

By his Patent Attorneys

DAVIES & COLLISON



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